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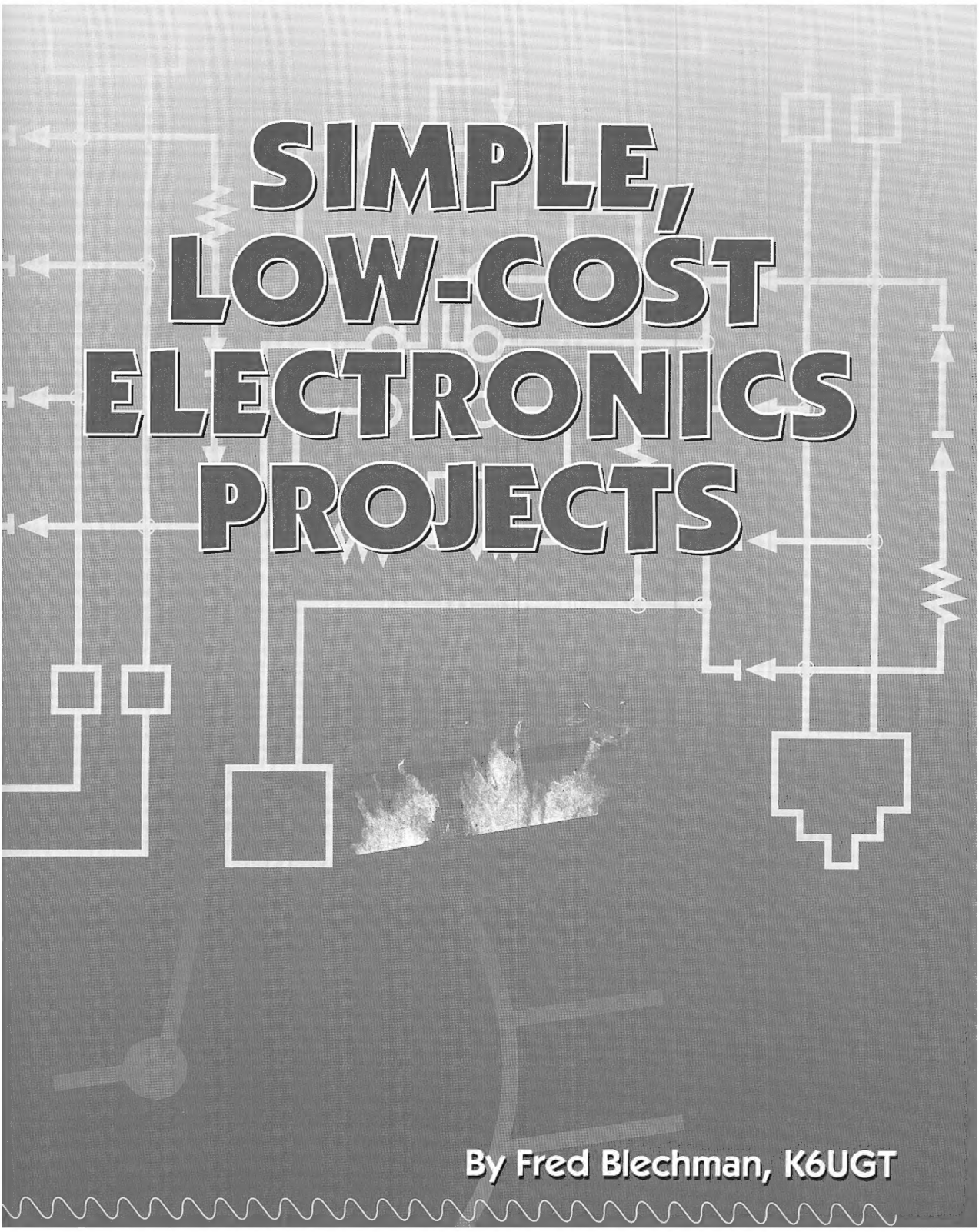

Jameco Part number 154991

Table of Contents

FOREWORD	v
PREFACE	vii
CHAPTER 1: **A Telephone Hold Button**	1
CHAPTER 2: **A Telephone Remote Ringer**	9
CHAPTER 3: **A Telephone Recording Beeper**	13
CHAPTER 4: **A Telephone FM Transmitter**	17
CHAPTER 5: **A Telephone Line Analyzer**	25
CHAPTER 6: **Two Simple Electronic Sirens**	35
CHAPTER 7: **A Variable Frequency Audio Oscillator**	45
CHAPTER 8: **Building a VOX (Voice-Operated Switch)**	49
CHAPTER 9: **A Nickel-Cadmium Battery Zapper**	57
CHAPTER 10: **A Multi-Purpose Digital Tester**	65
CHAPTER 11: **3 1/2-Digit Module Applications**	75
CHAPTER 12: **A Photo-Electric Counter**	83
CHAPTER 13: **A Digital Thermometer**	93
CHAPTER 14: **A Talking Alarm Clock**	103
CHAPTER 15: **A DC Digital Voltmeter**	111
CHAPTER 16: **A Digital Multimeter Kit**	119
CHAPTER 17: **A Transistor/Diode Tester**	129
CHAPTER 18: **Quick Tracey, The Semiconductor Sleuth**	137
CHAPTER 19: **Digital Voltmeter Capacitance Adapter**	147
CHAPTER 20: **A Function Generator**	155
CHAPTER 21: **Measuring Inductance With "Quick Henry"**	163
CHAPTER 22: **A Deluxe Timebase**	171
APPENDIX A: **Part Substitution**	177
APPENDIX B: **Kit and Part Sources**	185
APPENDIX C: **Fred's Funnies**	191
INDEX	203

Jameco Part number 154991

Foreword

Today, we more and more live in a virtual world where pretend and fantasy are just a mouse click away. While little harm, and some good, may come from this, as an electronics instructor I get concerned when a student tells me he'd rather "build" circuits on a computer screen than in the laboratory or workbench at home. "Electrons don't flow on schematic drawings," I tell him, "they move in real devices, circuits, and systems."

To learn electronics, you must *do* electronics. You must construct circuits by bringing resistors, capacitors, transistors, ICs, and other electronic components together to create a working device--be it a siren, telephone line analyzer, voice-operated switch, digital alarm clock, function generator, or FM transmitter. You must heat up a soldering iron, insert components into a circuit board, and apply power. And when you do, when the device you built lights up, beeps, counts, or responds to your voice, you'll not only "know" electronics in a way no cyber-hobbyist ever could, you'll feel a pride of accomplishment unmatched in any fantasy world.

This book gives you a chance to enter the real world of electronics, and not just because it contains 22 easy to build, fun, and useful electronics projects. There are other project books that will give you that. No, the reason this is the book to begin your exploration of electronics is simple--it is written by a man who learned electronics the way you will be learning it--by doing it. Fred Blechman has immersed himself in electronics for over three decades. As far as I know, he has never taken a course in the subject. Yet, with over 700 articles and five books to his credit, Fred has much to offer the electronics enthusiast. Written in a clear, conversational style, the author never forgets what it's like to be a novice. In his latest book, Fred takes you with him as, together, you build, learn, and have fun with electronics. Who knows where that can lead....

Ronald A. Reis
Electronics Instructor
Los Angeles Valley College

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Electronics

Electronics is not something you just read about. It's something you do.

You can never really understand electronics by reading about it or by modeling circuits on a computer. Electronics is the art of creating useful devices from a pile of components. It's true that you need to understand electronics theory, but to get the most out of electronics you also need to understand circuit construction, testing, and troubleshooting. Fred Blechman knows this. In this book, he has collected 22 terrific circuit designs that let you get a thorough understanding of how "real world" electronics really works. Fred will be your "hands-on" guide as you build such devices as:

- a talking alarm clock
- inductance and semiconductor testers
- a variable frequency audio oscillator
- voltmeter and multimeter projects
- a photo-electric counter
- telephone circuits such as a recording beeper, a line analyzer, and remote FM transmitter
- and many more!

Each project comes with a complete discussion of circuit theory, circuit board and parts placement layouts, hints on building and testing each project, suggestions on packaging the completed circuit, and a complete parts list. Let Fred Blechman be your guide to the world of building electronics projects!

Fred Blechman is a former U.S. Navy F4U Corsair fighter pilot and has written over 700 magazine articles and six books about electronics, microcomputers, and flying since 1961.

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